

Table 1. Management requirements to reduce or prevent adverse effects by Pondo Fire Salvage Project.

Potential Resource(s) Affected	Management Requirements Designed to Reduce or Prevent Adverse Effects	Responsible Person(s)
Heritage Resources	Heritage Resources will be designated on the ground prior to implementation of all project activities. Protect Heritage Resources that have been identified on the ground with flagging as well as those identified on maps provided by the District Archaeologist.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Management of Heritage Resources: Protect all Heritage Resources with flagged control areas. Utilize directional felling methods as appropriate to protect heritage resources. Buffer zones may be designated to ensure added protection. Sale Administrator, Contract Inspector, and/or Archaeologist will walk all sites with purchaser, contractor, or force account staff prior to start of project activities.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	Management of Linear Heritage Resources: Directionally fell trees parallel to or away from linear Heritage Resources (trails, ditches, roads etc.); existing breaches will be used whenever possible; if necessary, new breaches will be designated by the District Archaeologist; and isolated trees inside of linear Heritage Resource features may be felled on a case-by-case basis and with on-the-ground approval of the District Archaeologist.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	<p>Guidelines 2.1(a) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Linear sites (e.g., historic trails, roads, railroad grades, ditches) may be crossed or breached by equipment in areas where their features or characteristics clearly lack historic integrity (i.e., where those portions do not contribute to site eligibility or values).</p> <p>(1) Crossings are not to be made at the points of origin, intersection, or terminus of linear site features.</p> <p>(2) Crossings are to be made perpendicular to linear site features.</p> <p>(3) The number of crossings is to be minimized by project and amongst multiple projects in the same general location.</p> <p>(4) The remainder of the linear site is to be avoided, and traffic is to be clearly routed through designated crossings.</p>	District Archaeologist, layout/Contract Specialist, and Sale Administrator
Heritage Resources	<p>Guidelines 2.1(b) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Accumulation of sufficient snow over archaeological</p>	District Archaeologist, layout/Contract Specialist, and Sale Administrator

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	<p>deposits or historic features to prevent surface and subsurface impacts. Undertaking activities may be implemented over snow cover on historic properties under the following conditions:</p> <p>(1) The cover must have at least 12 inches depth of compacted snow or ice throughout the duration of undertaking activities on sites.</p> <p>(2) All concentrated work areas (e.g., landings, skid trails, turnarounds, and processing equipment sites) shall be located prior to snow accumulation and outside historic property boundaries.</p>	
Heritage Resources	<p>Guidelines 2.1(c) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Placement of foreign, non-archaeological material (e.g., padding or filter cloth) within transportation corridors (e.g., designated roads or trails, campground loops, boat ramps, etc.) over archaeological deposits or historic features to prevent surface and subsurface impacts caused by vehicles or equipment. Such foreign material may be utilized on historic properties under the following conditions:</p> <p>(1) Engineering will design the foreign material depth to acceptable professional standards;</p> <p>(2) Engineering will design the foreign material use to assure that there will be no surface or subsurface impacts to archaeological deposits or historic features;</p> <p>(3) The foreign material must be easily distinguished from underlying archaeological deposits or historic features;</p> <p>(4) The remainder of the archaeological site or historic feature is to be avoided, and traffic is to be clearly routed across the foreign fill material;</p> <p>(5) The foreign material must be removable should research or other heritage need require access to the archaeological deposit or historic feature at a later date; and</p> <p>(6) Indian tribe or other public concerns about the use of the foreign material will be addressed prior to use.</p>	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Heritage Resources	<p>Guidelines 2.2(a) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>Felling and removal of hazard, salvage, and other trees</p>	District Archaeologist, Layout/Contract Specialist, and Sale Administrator

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	<p>within historic properties under the following conditions:</p> <p>(1) Trees may be limbed or topped to prevent soil gouging during felling;</p> <p>(2) Felled trees may be removed using only the following techniques: hand bucking, including use of chain saws, and hand carrying, rubber tired loader, crane/self-loader, helicopter, or other non-disturbing, HPM-approved methods;</p> <p>(3) Equipment operators shall be briefed on the need to reduce ground disturbances (e.g., minimizing turns);</p> <p>(4) No skidding nor tracked equipment shall be allowed within historic property boundaries; and</p> <p>(5) Where monitoring is a condition of approval, its requirements or scheduling procedures should be included in the written approval.</p>	
Heritage Resources	<p>Guidelines 2.2(b) for approved Standard Protection Measures established in the 2013 Regional Programmatic Agreement Regarding Compliance with Section 106 of the National Historic Preservation Act.</p> <p>For fire, and hazardous fuels and vegetation management projects, HPM/DHPS , in conjunction with fuels, vegetation management, or fire specialists as necessary, shall develop treatment measures for <i>at risk</i> historic properties (as defined in SHPO approved Region 5 modules and agreements) designed to eliminate or reduce potential adverse effects to the extent practicable by utilizing methods that minimize surface disturbance, and/or by planning project activities in previously disturbed areas or areas lacking cultural features.</p> <p>(1) The following standard protection measures apply to fire, hazardous fuels, and vegetation management projects:</p> <p>(I) Mechanically treated (crushed/cut) brush or downed woody material may be removed from historic properties by hand, through the use of off-site equipment, or by rubber-tired equipment approved by HPMs or qualified Heritage Program staff. Ground disturbance shall be minimized to the extent practicable during such removals.</p> <p>(J) Woody material may be chipped within the boundaries of historic properties so long as the staging of chipping equipment on-site does not affect historic properties and staging areas are specifically approved by HPMs or qualified Heritage Program staff.</p>	District Archaeologist, Layout/Contract Specialist, and Sale Administrator

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	(K) HPMs shall approve the use of tracked equipment to remove brush or woody material from within specifically identified areas of site boundaries under prescribed measures designed to prevent or minimize effects. Vegetative or other protective padding may be used in conjunction with HPM authorization of certain equipment types within site boundaries.	
Heritage Resources	Logging Camps: Proposed logging camps and other staging areas need to be agreed upon with the District Archaeologist prior to use.	District Archaeologist, Layout/Contract Specialist, and Sale Administrator
Lands	Protect land survey signs and monuments, even if burned, or laying on the ground.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Public Service Officer
Lands	Notify private property owners within the Ponderosa Fire area of initial logging schedule.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Public Service Officer
Minerals	Notify mining claimants within the Ponderosa Fire Area of impending harvest schedule once it is known.	Minerals Officer and Sale Administrator
Nonnative Invasive Plants (NNIP) - Prevention	Clean all off-road equipment entering the project area if it may be coming from areas infested with nonnative invasive plants (NNIP).	Botanist, Fuels Officer, Project Implementation Teams, Contract Administrators
Nonnative Invasive Plants (NNIP) - Prevention	<p>To the greatest extent feasible keep all equipment, vehicles, and supplies out of areas of known NNIP infestations, including any NNIP infestations that may be discovered during project implementation. NNIP infestations will be flagged with bright orange “noxious weed” flagging prior to project implementation and refreshed as necessary.</p> <ul style="list-style-type: none"> Any equipment, vehicles, and supplies that do come in contact with NNIP infestations (plants or the ground close to them) during project implementation should be thoroughly cleaned of dirt, mud, and plant debris before entering any un-infested project area. Hand cutting of broom plants and placement of burn piles on top of NNIP infestations is encouraged (new infestations should be mapped and reported to the District Botanist). 	Botanist, Fuels Officer, Project Implementation Teams, Contract Administrators
Nonnative Invasive Plants (NNIP) - Prevention	<p>Members of the project implementation teams (layout crew, contract administrator, etc.) should watch for and be able to recognize NNIP. New infestations should be mapped and reported to the District Botanist, and flagged and avoided.</p> <ul style="list-style-type: none"> When time allows, pull some or all of NNIP encountered during project activities (avoiding archaeology controlled areas). 	Botanist, Project Implementation Teams, Contract Administrators

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Nonnative Invasive Plants (NNIP) - Prevention	Monitor areas of project related ground disturbance (e.g. skid trails, temp roads, landings) for NNIP for 1-2 years following project implementation, and pull NNIP when found.	Botanist and Implementation Team
Nonnative Invasive Plants (NNIP) - Prevention	Monitor areas of project related ground disturbance (e.g. skid trails, temp roads, landings, trails, etc.) for NNIP for 1-2 years following project implementation, and pull NNIP when found. New infestations should be mapped and reported to the District Botanist.	Botanist and Implementation Team
Nonnative Invasive Plants (NNIP) - Prevention	Ensure that all plant material and fill material used for erosion control and/or road maintenance is free of NNIP, including straw, mulch, gravel, and rock (<i>certified weed-free</i>).	Nonnative Invasive Plants (NNIP) - Prevention
Rare Plants - Conservation	Controlled Areas (CAs) have been established for the protection of rare plants. <ul style="list-style-type: none"> These Botany Controlled Areas will be shown on the project sale maps, and be flagged on the ground by red-and-black-stripe-flagging and blue-and-black-stripe-flagging always tied together. No heavy equipment or other vehicles on the ground within CAs (equipment reaching into a CA, or a small amount of end-lining, is ok), no burn piles (lop-and-scatter within CAs, remove as much slash as practical to burn piles outside of CAs). Two small CAs are present, one for Butte County fritillary (<i>Fritillaria eastwoodiae</i> – FS Sensitive) east of 20N67A along the south edge of Unit 1, and one for Butte County fritillary along U1053 at the edge of Unit 2. Any new locations of Sensitive plants found during project layout and implementation should be designated as CAs and be managed as itemized above. Deviations from this requirement might be possible in consultation with the District Botanist. 	Botanist, Project Implementation Teams, Contract Administrators
Recreation and Public Use	Provide for public safety and education by posting signs to inform public of project activities. Whenever possible, post notices on PNF website prior to treatments. Keep information current.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Recreation Specialist
Recreation and Public Use	Protect all improvements including directional and informational signs, barriers, etc. If any barriers (including boulders) or improvements are damaged or removed to during activities, they must be replaced and re-installed in the same location and manner immediately following vegetation management operations.	Layout/Contract Specialist, Fuels Specialist and Recreation Specialist
Recreation and Public Use	Recreation areas (designated roads, trails, trailheads, staging areas, and dispersed camp sites) may be temporarily closed to provide for public safety during active tree removal operations, but would otherwise remain open unless specifically agreed to by the Recreation Specialist.	Layout/Contract Specialist, Fuels Specialist and Recreation Specialist

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Recreation and Public Use	Skid trails shall be treated to prevent post-harvest use by any off-highway vehicle. This may be by slash scatter, water barring, or other method agreed to by the Recreation Specialist. The access point shall be closed in a manner that is effective to keep OHV use from occurring.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Recreation Specialist
Recreation and Public Use	When new landings are developed, locate them in coordination with Recreation Specialist. New landings shall be effectively closed and decommissioned.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Recreation Specialist
Recreation and Public Use	Barricade, with local and natural material, all skid trails that directly intersect a forest road or trail. This is to deter off-road and unapproved use of skid trails for motorized vehicles and new dispersed campsites.	Layout/Contract Specialist, Fuels Specialist, Sale Administrator, and Recreation Specialist
Scenery Resources	Roadside stumps that are visible within 50 feet of Lumpkin Road should be cut to within eight inches of the ground (or as low as possible considering obstacles and safety) and the cut should slope away from travelway.	Contract Specialist, Sale Administrator, and Fuels Implementation Team
Scenery Resources	Along the Lumpkin Road maximize protection of non-affected timber and ground vegetation during tree removal operations and slash treatments.	Layout/Contract Specialist and Sale Administrator
Scenery Resources	Slash treatment in treated areas within the immediate foreground (150 feet) of Lumpkin Road should be by lop and scatter. If hand-piling and burning is utilized, piles are to be located away from the edge of the roadway. Burning of piles should be accomplished the following fall or spring. Burning of piles should be planned and implemented to minimize scorching of existing non-fire-killed vegetation.	Layout/Contract Specialist and Sale Administrator
Silviculture	Lopping and Scattering: Slash shall be lopped and scattered away from the bole of residual leave trees so that it lies outside of the drip line.	Contract Specialist and Sale Administrator
Silviculture	Piling and burning: Piles shall be placed away from residual leave trees to avoid being scorched during burning. Piles cannot be located on or against stumps and logs.	Contract Specialist and Sale Administrator
Silviculture	Leaner's/ Hang-ups - No created slash shall be left suspended by, or lean against, a leave tree; whether it is dead or alive.	Contract Specialist and Sale Administrator
Silviculture	Protection of specially-identified trees (i.e., location, survey marker, or bearing trees; proven rust resistant sugar pine trees; or genetically superior tree of any species). They are usually identified with various types of metal tags.	Contract Specialist and Sale Administrator
Fire and Fuels	Activity Generated Slash adjacent to FS roads. Pile all activity generated slash 100' off Lumpkin Road and 50 feet off secondary dirt roads in project area, and covered with waterproof covering for burning during winter months.	Contract Specialist, Sale Administrator, and Fuels Implementation Team

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	Piling and Burning Landings: Landings created for optimal winter weather burning. Waterproof covering on multiple locations of pile. Landing Temp Roads: Landings created for burning need to have roads accessible for fire engine access during ignition and monitoring phases. Landing Placement: Landing can scorch and burn live trees 50-100 feet in distance. Landing Fire Lines: 6-10 foot fire line created around each landing.	
Transportation System, Safety and Maintenance	Protect all improvements along roadways including road surface, signs, ditches, and drainage structures.	Maintenance Engineer, Contract Specialist, Sale Administrator
Transportation System, Road Maintenance and Safety	Maintain haul roads before, during, and after use. Place emphasis on post haul maintenance of road surface, and the surface drainage crossings to reduce erosion potential. Clean all activity debris from ditches and culvert inlets. Use Timber Sale contract road maintenance specifications T-802 Ditch Cleaning, T-803 Surface Blading, T-805 Drainage Structures, and T-809 Waterbars (or something comparable for service or stewardship contracts).	Maintenance Engineer, Contract Specialist, Sale Administrator and Fuels Implementation Team
Watershed, Soils, and Aquatic Resources	Establish Riparian Conservation Areas (RCAs) for all aquatic features, as specified below. Ensure Riparian Conservation Objectives (RCOs) are met within RCAs by adhering to the Project Riparian Conservation Area (RCA) Guidelines. These guidelines specify the types of activities that can be conducted within RCAs and mitigation measures to minimize impacts to aquatic feature and riparian ecosystems. RCA widths are as follows:	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist

Riparian Conservation Area Type	Equipment Exclusion Zone Width (Feet)	Heavy Equipment Slope Restrictions	RCA Buffer that Slope Restrictions Apply to
Perennial and Intermittent Streams	75 feet from edge of feature or to edge of riparian vegetation, whichever is greater. No yarding within the these buffers simply fell them towards the streams if they are hazardous.	25 percent	300 feet for Pernnial Streams; 150 feet for intermittent streams.
Ephemeral Stream	50 feet from edge of feature or to edge of riparian vegetation, whichever is greater. No yarding within the these buffers simply fell them towards the streams if they are hazardous.	25 percent	150 feet
Ponds	25 feet from high water mark. No yarding within the these buffers simply fell them towards the streams if they are hazardous.	25 percent	

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Watershed, Soils, and Aquatic Resources	No yarding within the Equipment Exclusion Zone buffers simply fell them towards the streams if they are hazardous.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed and Soils	<ul style="list-style-type: none"> 20N67—Construct 7 rolling dips, reconstruct 3 waterbars, and clean out a ditch relief culvert. 20N67A—Fix slide on road. The rest of the road has no hydrological issues. UC200615-03—Remove culvert at stream crossing. Half the road fill is gone at outlet. 20N54—Construct one low water crossing. Construct 10 rolling dips and reconstruct 6 waterbars. UC200623-01—Reconstruct 7 waterbars. 22N24X—Clean inlet and outlet of 21 culvert stream crossings. Construct 2 forded stream crossings, 7 critical dips and 19 rolling dips. 20N94X—Road is in good working condition. No major hydrological issue. Survey found 27 working dips with leadoff ditches. Recommend maintaining these drainage features functioning properly after salvage is done. 	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	<p>Lop and scatter broken tops and limbs throughout the project boundary to increase the effective soil cover. Minimize the amount of slash that goes to landings instead use material for effective soil cover. Concentrate effort on steeper slopes and areas along the riparian corridor.</p> <p>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick).</p>	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	<p>National Core BMP Veg-2 Erosion Prevention and Control</p> <p>Limit tractor skidding to less than 35 percent slopes unless a watershed specialist evaluates operations on the steeper slopes. Tractor skidding may occur on slopes greater than 35 percent only in short pitches less than 200 feet in distance.</p> <p>Limit ground-based equipment to slopes less than 25% within all RCAs.</p> <p>To reduce ground disturbance created by equipment within RCAs, vary the routes the equipment uses and minimize turning of equipment.</p> <p>Within RCAs having slopes less than 25%, and outside of the equipment exclusion zone, rubber-tired skidders may enter to retrieve logs but are limited to 1-2 passes over the same piece of ground.</p>	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist

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Watershed, Soils, and Aquatic Resources	No new landings or roads will be located within RCAs. Consult with a hydrologist before using an existing skid trail, landing, or road located within an RCA.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Mechanical site preparation for reforestation may occur within RCAs (on slopes less than 25%), outside of the equipment exclusion zone, when such operations do not result in detrimental soil compaction, meet soil moisture requirements, and maintain minimum effective soil cover (ESC) of 50% when feasible.	Planning Forester, Prep Forester, Sale Administrator, Hydrologist, Soil Scientist
Watershed, Soils, and Aquatic Resources	Designated skid trails crossing on ephemeral stream channels may be approved for access to otherwise inaccessible areas, but only upon consultation with a hydrologist.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Place rock on roads at stream crossings and segments within identified RCAs to reduce the impact of sediment delivery to associated stream courses. Place rock, slash, or certified NNIP free mulch at the outlets of rolling dips and/or waterbars to dissipate water where identified by road engineer and soil scientist, and/or hydrologist.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: Water sources shall be approved prior to use.	Planning Forester, Prep Forester, Sale Administrator, Road Maintenance Engineer, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: Each load of water drafted shall be documented in terms of gallons per project per truck per day and a written report provided to the Public Services Officer every two weeks.	Planning Forester, Prep Forester, Sale Administrator, Road Maintenance Engineer, Public Services Officer
Watershed, Soils, and Aquatic Resources	Water Source Use: Armor road approaches as necessary from the end of the approach nearest a stream for a minimum of 50 feet, or to the nearest drainage structure.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: Where overflow runoff from water trucks or storage tanks may enter the stream, effective erosion control devices shall be installed.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: All water-drafting vehicles shall be checked routinely and shall be repaired as necessary to prevent leaks of petroleum products from entering RCAs.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: Water-drafting vehicles shall contain petroleum spill kits. Dispose of absorbent pads according to the Hazardous Response Plan.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist
Watershed, Soils, and Aquatic Resources	Water Source Use: Survey all proposed drafting locations for sensitive and listed amphibians and receive approval from a biologist prior to use. Use drafting devices with 2-mm or less screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low	Planning Forester, Prep Forester, Sale Administrator, Aquatic Biologist and Hydrologist

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	<p>levels beyond which they cannot recover quickly (approximately one hour).</p> <p>If a sensitive or listed amphibian is sighted within the project area, cease operations in the sighting area, and inform a Forest Service aquatic biologist of the sighting immediately.</p>	
Watershed, Soils, and Aquatic Resources	When possible, use existing skid trails and landings except where this could cause unacceptable resource damage. Limit new and existing skid trails, temp roads, and landings to less than 15 percent of the unit area. Space skid trails at least 75 feet apart.	Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist
Watershed, Soils, and Aquatic Resources	Where end-lining has gouged out soil forming a path for concentrating runoff, use hand tools to install cross drains or rake berm over gouged out area. Use cross drain spacing guidelines listed below. Pull berms back on skid trails where ground conditions are appropriate.	Sale Administrator, Soil Scientist, Hydrologist,
Watershed, Soils, and Aquatic Resources	<p>National Core BMP AqEco-2 Operations in Aquatic Ecosystems. Region 5 BMP 1-5 Limiting the Operating Period of Timber Sale Activities, BMP 1-13 Erosion Prevention and Control Measures During Timber Sale Operations.</p> <p>Limiting Operation Period for soil moisture: Allow mechanical operations only when soil moisture conditions are such that compaction, gulying, and/or rutting will be minimal. Conduct ground based harvest operations when soil is dry; that is, in the spring when soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. In the summer and early fall after storm event(s) when soil moisture between 2-8 inches in depth is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction.</p>	Sale Administrator, COR, Soil Scientist, and Hydrologist
Watershed, Soils, and Aquatic Resources	<p>National Core BMP Road-5 Temporary Roads, Veg-2 Erosion Prevention and Control</p> <p>Temporary roads: Following temporary road use, remove culverts, eliminate ditches, out-slope roadbed, remove ruts and berms, effectively block the road to normal vehicular traffic where feasible under existing terrain conditions, and build cross ditches and water bars.</p> <p>Subsoil all temporary roads and add effective soil cover to bare soil.</p> <p>Add 100 feet of on effective soil cover on both sides of</p>	Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist

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	<p>a perennial stream and 75 feet on seasonally flowing streams.</p> <p>Effective soil cover could include organic surface materials (> ½ inches thick), woody material in contact with the soil (> ¼ inches thick in diameter), living vegetation, and rock fragments (> ¾ inches thick). Use of weed free straw, wood chips, or mulch may be used where on-site material is insufficient.</p>													
Watershed, Soils, and Aquatic Resources	Log Landings: re-use log landings to the extent feasible. Limit new landings to ¼ to ½ acre in size.	Planning Forester, Prep Forester, Sale Administrator, Soil Scientist, and Hydrologist												
Watershed, Soils, and Aquatic Resources	<p>Recommended spacing for cross drainage spacing on skid trail and temporary roads:</p> <table><tr><td><u>Slope Gradient</u></td><td><u>Cross Drain Spacing</u></td></tr><tr><td>1-6%</td><td>250'</td></tr><tr><td>7-9%</td><td>150'</td></tr><tr><td>10-14%</td><td>125'</td></tr><tr><td>15-20%</td><td>60'</td></tr><tr><td>21-40%</td><td>30'</td></tr></table>	<u>Slope Gradient</u>	<u>Cross Drain Spacing</u>	1-6%	250'	7-9%	150'	10-14%	125'	15-20%	60'	21-40%	30'	Sale Administrator, Soil Scientist, Hydrologist,
<u>Slope Gradient</u>	<u>Cross Drain Spacing</u>													
1-6%	250'													
7-9%	150'													
10-14%	125'													
15-20%	60'													
21-40%	30'													
Watershed, Soils, and Aquatic Resources	To reduce the potential for adverse cumulative watershed effects, implement state certified Best Management Practices (BMPs). Site specific BMPs applicable to this project (located in project record file) include BMP 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.19, 1.20, 1.21, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.11, 5.1, 5.2, 5.4, and 5.6.	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist												
Watershed, Soils, and Aquatic Resources	<p>National Core BMP Road-10 and Region 5 BMP 2.11—Equipment Refueling and Servicing</p> <p>Refuel and service equipment only in designated staging areas. Fuel outside of riparian areas. 300 feet on perennial and 150 feet on seasonal flowing streams.</p>	Planning Forester, Prep Forester, Sale Administrator, and Hydrologist												
Wildlife	<p>Logs not meeting utilization standards shall be used to meet the Land and Resource Management Plan as amended requirements. Logs should be evenly distributed within the units (stands) to the extent possible.</p> <p>Retain 4 of the largest down logs per acre.</p>	Wildlife Biologist, Layout/Contract Specialist, Sale Administrator												
Wildlife	If new TEPS species are listed or discovered within an area in which they may be adversely affected by activities, protection measures such as LOPs will be implemented as recommended by a qualified biologist, as appropriate for the species. The dates and reason for delaying harvest should be included in C6.313 Limited Operating (1/84), or other language that is appropriate for the type of contract.	Wildlife Biologist, Layout/Contract Specialist, Sale Administrator												

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Wildlife	<p>Leave green trees and retain 4 of the largest snags per acre in units 1 & 2. Oak being the species of preference. Snags should be clumped and distributed irregularly across the treatment units.</p> <p>Retain the two large oaks identified in Figures 2 & 3 (of BABE) as optimum cavity nesting trees.</p>	Wildlife Biologist, Layout/Contract Specialist, Sale Administrator
Wildlife	Enforce the 25 feet equipment exclusion zone around the small man-made pond to the south of Lumpkin road in Unit 1. No yarding of hazard trees inside 25 feet.	Wildlife Biologist, Contract Specialist, Sale Administrator

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